Top Weather Events in Wisconsin for 2007

1) Feb 23-26: *Three winter storms* struck large parts of Wisconsin over a 4 day period, with 6 to 12-hour lulls in between. Round #1 occurred overnight Feb 23rd into the early morning hours of Feb 24th, and deposited 8-16" from the west-central counties to the southeast corner of the state. Galesville came in with 15.8." Round #2 hit overnight Feb 24th into the morning hours of Feb 25th, and deposited 8 to 13" from west-central Wisconsin to the southeastern corner. Up to 13" fell in northeastern Dunn County in this round. Round #3 Feb 25th into Feb 26th affected mainly the northeastern counties where 6 to 14.5" fell, with Door County having the maximum amounts. Collectively, some locations had a total snowfall of 20 to 25 inches over the 4-day period, which was about 30-50% of a typical winter season total!

2) March 1-2: *A winter storm event* (but blizzard conditions in Douglas County) affected the northern three-fourths of Wisconsin. Snow in excess of 6" fell north of a line from Viroqua to Port Washington, with maximum amounts of 12 to over 18" over the northwest and northeast parts of the state. On Madeline Island (Ashland County), 18.6" was measured, while 14.8" fell at Menomonie (Dunn County), and 14.1" in central Marinette County. The winds during the Douglas County blizzard gusted to 52 mph at the Bong Airport in Superior and to 57 mph at the Port Wing Marina. Elsewhere northerly winds in the 15 to 20 mph range, along with gusts to 30 mph, produced blowing and drifting snow. Many roads were closed or impassable, and dozens of schools closed.

3) April 3-4: *Heavy snow* fell across the area from Douglas County east to Vilas County. Amounts were generally 8" or more, but ranged up to 20 to 24" in northern Iron County.

4) April 11-12: *Heavy, wet snow* fell of 4 to 9" fell south of a line from Eau Claire to Sister Bay in Door County. Black River Falls had the maximum amount of 9".

5) June 1-6: *Scattered severe storms occurred every day* during this period thanks to a slow-moving upper-level low pressure. Spiral bands or lines of storms produced damaging winds, large hail, isolated low-end flash floods, and 8 weak tornadoes. Two tornadoes spun up in the counties of Lafayette (1st and 2nd) and Washington (2nd and 3rd), one in Shawano County (3rd), and three in Grant County (3rd).

6) June 7: *A severe weather outbreak* occurred across the northern half of the state, while only scattered severe storms with damaging winds affected the southern counties. Fast moving supercell thunderstorms generated damaging straight-line winds, large hail, and tornadoes. Five tornadoes spun up in central and northeast Wisconsin. A long-track tornado touched down at 4:31 pm east of Mattoon in Shawano County and continued northeast to the Oconto-Marinette County line. The tornado track was just over 40 miles, and the tornado was over 1/2 mile wide at times. This was the longest tornado track in the U.S. in 2007.

Over 14,000 acres of trees were snapped or flattened and many dozens of buildings were damaged or destroyed. The twister was rated an EF3 on the Enhanced Fujita scale, with estimated winds of 140 to 160 mph. Damage by this tornado exceeded $15 million (property and

timber). The most severe structural damage occurred 3.5 miles east of the city of White Lake in Langlade County. The Bear Paw Outdoor Adventure Resort sustained severe damage. Nearly every building was damaged or destroyed, including a three story inn.

As the tornado moved northeast into the Nicolet National Forest in Oconto County, it flattened tens of thousands of trees as it headed toward Highway 64. The damage path near Highway 64 was three-quarters of a mile wide! The twister caused EF2 damage four miles north of the city of Mountain on Highway 32, in the town of Riverview, with estimated winds of around 130 mph. The width of the tornado in this area was almost 1/2 mile.

7) June 7: *Near-Record Wisconsin Hail Stone in Port Edwards* - The June 7 severe weather outbreak also produced a 5.5 inch hailstone that fell in Port Edwards,Wood County. This is the second largest hailstone in Wisconsin weather history. (The largest hailstone in Wisconsin is 5.7" in diameter which fell in Wausau in May 1921.) Damage from the hail in Wood County reached $45 million to at least 6,000 homes and businesses.

Collectively, the severe storms on June 7th resulted in about $60.8 million in damage.

8) July 17-18: *A flash flood event* occurred over southern Crawford and Grant County after heavy rains of 4 to over 7 inches fell overnight. Numerous mud and rock slides occurred on the steep bluffs along the Mississippi River. Near Prairie du Chien, 7.31 inches of rain was measured. In Bagley, WI, the combination of several drainage basins that converge near the village, and the damming effect of debris build-up along area bridges, led to a rapid rise in water levels to about 3 to 4 feet deep in the village. At least 300 homes in the village had water/sewer problems. The State of Wisconsin received a U.S. Small Business Administration declaration which provided over $450,000 in low interest loans to residents and businesses impacted by this flooding event.

9) Drought: The year began with moderate (D1) to extreme (D3) across the northern third of Wisconsin. During late February and early March, several bouts of heavy snow helped to alleviate the severe (D2) and extreme drought areas across these areas. In addition, the drought area (D1 to D4) had been reduced from 30.69% (January 2nd) of the state to just 9.22% (March 6th). However a dry spring (up to 2 inches below normal across much of the state) caused the drought to slowly spread across the northern third of Wisconsin once again. This dryness continued into late July. During June and July much of the state saw 2 to 4 inch precipitation deficits. The effect of this dryness was amplified by unusually warm temperatures (1 to 3 degrees above normal). This caused the drought to spread across almost all (85.85%) of Wisconsin. With the exception of the southern two tiers of counties, the state was either in moderate or severe drought. Record August rains across the southern half of the state quickly alleviated the drought across this area. Meanwhile the drought intensified across the northern third of the state. By mid September, severe to extreme drought covered much of this area. From mid September through mid October, several slow moving cold fronts moved

through the northern Wisconsin. This resulted in precipitation being 4 to 6 inches above normal across north central and northwest Wisconsin. This alleviated the drought across these areas. Meanwhile the dryness continued across northeast Wisconsin. Green Bay had their driest November ever with only 0.11 inches falling into the rain bucket. As of early December, only northeast Wisconsin (just 10.55% of the state) was in drought (moderate).

10) <u>August Record Rains & Flooding</u>: Record daily, August, and wettest monthly rainfall records were set over portions of southern Wisconsin during August 2007. This rain lead to moderate to major flash flooding on some days from the La Crosse area through Madison to Racine and Kenosha. During the month, 143 new daily precipitation records were established. Sixty of these records occurred between August 18th and 20th. Total damage to property and crops was at least $112.4 million, with most of it in west-central and southwestern Wisconsin. There were numerous reports of mud/debris slides, road closures, flooded homes and businesses, as well as some undermined bridges. Repeatedly during the month, several rounds of thunderstorms with heavy rains moved east-southeast through the southern counties of the state. Ultimately, 14 counties received a federal disaster declaration for flooding that occurred from August 18-31st. This included the counties of Columbia, Crawford, Dane, Grant, Green, Iowa, Jefferson, Kenosha, La Crosse, Racine, Richland, Rock, Sauk and Vernon for individual assistance (over $16 million and over 5,000 individuals). Crawford, La Crosse, Richland, Sauk and Vernon Counties were also approved for Public Assistance (local government) to help with costs such as debris removal, emergency protective measures, and/or repairs to infrastructure such as roads and bridges (over 140 communities for more than $12 million).

It all started overnight August 4th to the early morning hours of August 5th, when 6 to 10 inches of rain fell over eastern Iowa Co. into southwestern Dane Co., and 1 to 5 inches over the remainder of southern Wisconsin. At a location 2 miles west of Barneveld, at least 10 inches fell (unofficially). A couple mudslides were reported on CTY K near Barneveld, and some trees were uprooted.

Another round of 2 to 5 inches of rain fell overnight August 5th into August 6th across southern Wisconsin, leading to additional minor flooding, especially in the counties near Illinois.

Very heavy rains fell overnight August 18th into August 19th, and most locations in the southern third of the state picked up 3 to 7 inches, but up to 10 to almost 12 inches fell in parts of La Crosse and Vernon Counties. An observer at Stoddard 3NE measured 11.75" of rain in a 24-hour period. However, this measurement is considered unofficial, and the old 24-hour record for Wisconsin remains at 11.72" in Mellen (Ashland Co.). Nonetheless, a lot of rain fell on August 18th and 19th!

Additional round of thunderstorms with heavy rains occurred from August 20th through August 23rd across southern Wisconsin

Most rivers and streams exceeded flood stage during August 2007. The Root River Canal at Raymond reached an all-time record-high crest of 11.66 feet on August 21st. A crest of 19.35 feet at Soldiers Grove on the Kickapoo River was the 2nd highest in history.

Here's a listing of locations that established new Wettest Month Records:

Wettest Month of Record Information			
Location	**New Record**	**Previous Record**	**Previous Aug. Record**
Viroqua	21.74"	14.34" (May 2004)	13.69" (1980)
Readstown	21.57"	12.91"(Sep 1965)	12.71" (1980)
Gays Mill	21.06"	12.18" (May 2004)	8.72" (1990)
Richland Center	20.81"	12.81" (July 1978)	12.11" (1940)
Dodgeville	20.02"	11.90" (July 1993)	11.31" (1981)
Genoa Dam 8	19.80"	12.80" (Aug 1959)	12.80" (1959)
Westby 3ENE	18.94"	13.37" (Aug 1990)	13.37" (1990)
Mt. Horeb 1S	18.48"	M	M
La Farge	18.38"	13.76" (May 2004)	6.28" (2001)
Lake Mills	17.75"	12.03" (Jul 1902)	8.60" (1959)
Afton	17.39"	9.32" (Jun 1993)	7.89" (1998)
La Crosse WFO	17.00"	10.46" (May 2004)	8.89" (1998)
Ontario	16.99"	13.29" (Jul 1978)	12.39" (1980)
Prairie du Sac-Hydro	16.91"	12.59" (Sep 1965)	11.41" (1980)
Stoughton	16.37"	11.19" (May 2004)	9.11" (1936)
Clinton	16.24"	12.55" (Sep 1970)	12.41" (1979)
Sauk City-1SW	15.74"	M	M
Brodhead	15.57"	13.59" (Sep 1938)	13.38" (1940)
Monroe	15.43"	14.53" (Jun 1993)	11.47" (1979)
Milton	15.22"	M	M
Madison Airport	15.18"	10.93" (July 1950)	9.49" (1980)
Lodi	15.18"	6.00" (Aug 2006)	6.00" (2006)
Mazomanie	14.92"	11.53" (May 2004)	3.91" (2004)
Baraboo	14.73"	14.79" (Jul 1993)	11.73" (1980)
La Crosse 4NNW	14.66"	11.76" (May 2004)	4.80" (2004)
UW-Charmany Farm	14.58"	11.47" (Jun 1996)	9.64" (2001)
Reedsburg-1NE	14.49"	12.89" (Sep 1965)	11.79" (1980)
Watertown	14.39"	13.50" (Sep 1965)	9.19" (1995)
La Valle 4N-Redstone L.	14.12"	M	M
Cashton	14.05"	11.95" (Aug 1979)	5.48" (2006)
Hillsboro	13.99"	13.81" (Aug 1908)	13.81" (Aug 1908)
Galesville	13.87"	11.89" (Sep 1980)	9.45" (1990)
Platteville	13.78"	12.60" (Jun 1969)	8.41" (1940)
Prairie du Chien	13.77"	12.92" (Aug 1928)	12.92" (1928)
La Crosse Airport	13.75"	12.09" (Oct 1900)	9.84" (1980)
Gay Mills	12.65"	12.18" (May 2004)	8.72" (1990)
Lancaster	12.48"	11.80" (Aug 1928)	11.80" (1928)

Mauston	11.91"	11.79" (Sep 1965)	10.58” (1980)
Friendship	9.43"	9.06" (May 2004)	7.22” (2004)

Seven locations recorded their wettest day ever on one of the days in August 2007. The following table shows the details.

Wettest Day Ever Information		
Location	**Pcpn Amount**	**Previous wettest day**
Viroqua	9.22” (19th)	8.57” (Jul 22, 1917)
Westby 3ENE	7.17” (19th)	4.37” (Aug 4, 1990)
Genoa Dam 8	7.10” (19th)	6.13” (Jul 21, 1951)
Stoughton	6.03” (19th)	5.05” (Sep 1, 1981)
Lake Mills	5.59” (19th)	5.11” (Sep 8, 1941)
Hillsboro	4.64” (19th)	4.15” (Aug 27, 1959)
Afton	4.22 (5th)	3.25” (Aug 5, 1998)

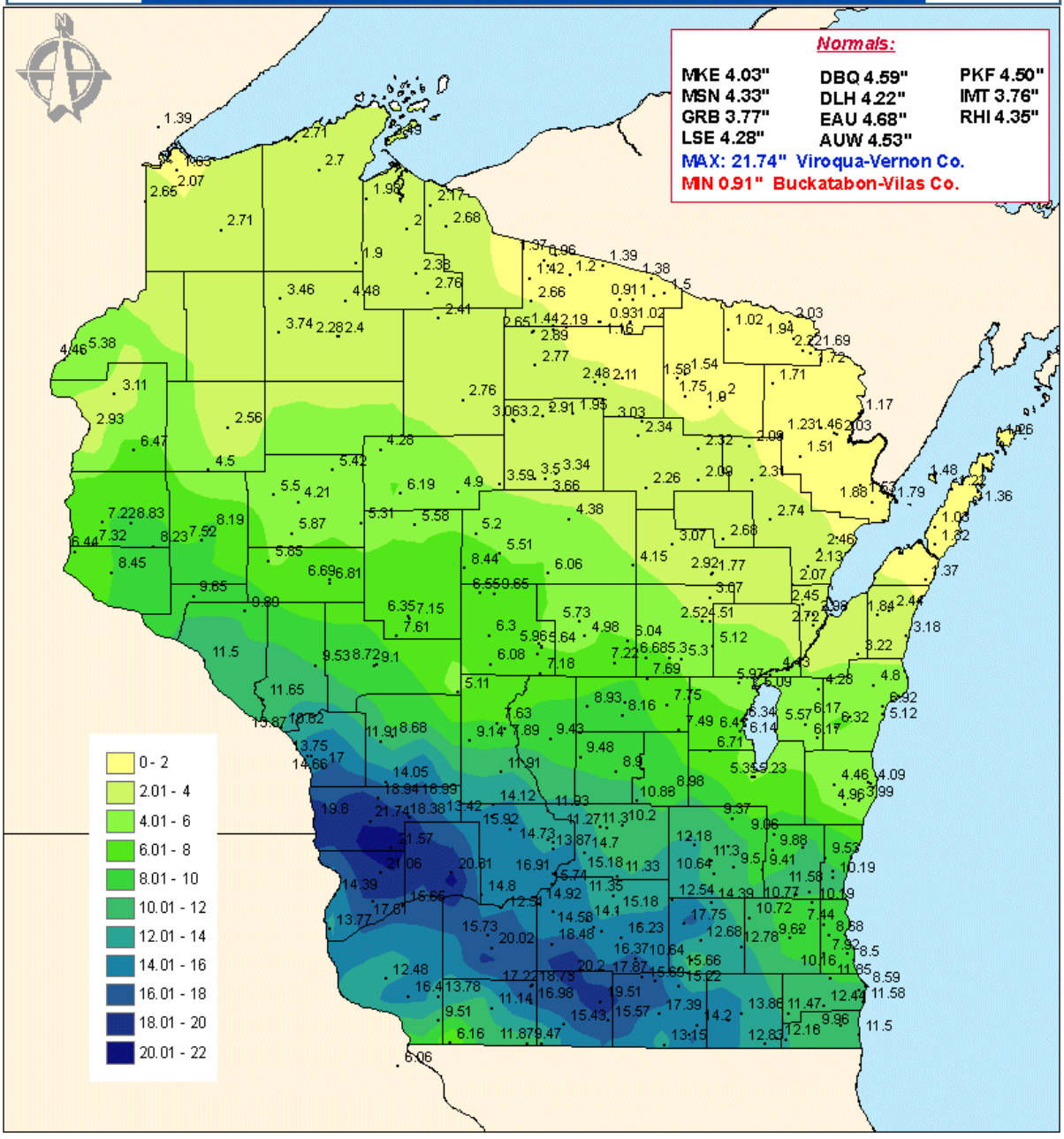
Five additional locations established a new wettest August day record for precipitation. The following table shows the details.

Wettest August Day		
Location	**New Record**	**Previous Wettest August Day**
Racine	4.10” (19th)	3.75” (Aug 4, 1924)
La Crosse Municipal Airport	4.05” (18th)	2.84” (Aug 22, 1973)
Lone Rock Tri County Airport	3.84” (18th)	2.64” (Aug 4, 1982)
Galesville - 1S	3.30” (19th)	3.15” (Aug 31, 1962)
Oshkosh Wittman Regional Airport	1.63” (19th)	1.32” (Aug 27, 2005)

Total August 2007 rainfall was generally 15” or more south of a line from La Crosse to Baraboo to Madison to Lake Mills to Delevan. Normal August rainfall is 4 to 4.5”. Some spots in Vernon, Crawford, Richland, Iowa, Dane, and Green counties exceeded 20” for the month. Viroqua (Vernon Co.) measured the greatest amount of 21.74”, which is a new record for the wettest month in Wisconsin, and a new state August record. The old record for the wettest month in Wisconsin belonged to Port Washington (Ozaukee Co.) with 18.33” in June, 1996, and the old state August record was 16.61 inches in Phelps in August 1966. Refer to the following graphic of August rain amounts for additional information.

National Weather Service Milwaukee/Sullivan
August 2007 Rainfall

– Data from approximately 200 NWS Weather Observers --



11) August 13: A powerful thunderstorm complex produced a damage swath of 2 to 4 miles wide in St Croix County from New Richmond to Glenwood City. At least 109 homes and 48 barns were damaged, including two homes and five barns destroyed. One home had its entire upper story blown off. Based on a NWS damage survey, an estimated wind gust of 90 mph occurred. This may have been the strongest thunderstorm wind gust of the year in Wisconsin.

12) December 1: *A winter storm/ice storm* affected all of Wisconsin (first widespread storm of the season), dumping generally 3 to 6 inches of snow and sleet across the southern counties, 4 to 8 inches of snow and sleet across the central counties, and up to 8 to 10 inches of snow across the far northwestern counties. The precipitation started off as snow, but changed to sleet and then freezing rain over all but northwest Wisconsin. Sleet accumulations of 1 to 2 inches were noted over the southern and central counties, and ice accumulations of ¼ to ½ inch affected the southern counties. Hundreds of vehicle accidents occurred, and numerous airplane flights were cancelled, as well as numerous civic functions.

13) Tornadoes: Eighteen tornadoes spun up in Wisconsin this year, 3 below normal. Here's the listing: March 31st – EF0 in Grant Co., May 26th – EF0 in Grant Co., May 26th – EFO in Polk Co., June 1st – two EF0s in Lafayette Co., June 2nd – EF0 in Washington Co., June 3rd – EF1 in Washington Co., June 3rd – EF0 in Shawano Co., June 3rd – three EF0s in Grant Co., June 7th – EF2 in Marathon Co., June 7th – EF0 in Wood Co., June 7th – 40-mile track EF3 in counties of Shawano, Menominee, Langlade, and Oconto, June 7th – two EF1s in Marinette Co., September 27th – EF0 in Racine Co., and October 8th – EF0 in Price Co. Total yearly damage to property and crops was about $15.795 million, with $15.4 million attributed to the June 7th EF3 tornado.

14) Temperature Extremes: The coldest temperature was -35 at Gurney (Iron Co.) on February 6th and 7th. July 8th was the hottest day in Wisconsin with most locations reaching the mid to upper 90s. The highest official reading was 99 at both Grantsburg (Burnett Co.) and Crivitz High Falls (Marinette Co.).

15) Snowfall Extremes 2006-07 Winter: Upson (Iron Co.) had the most snow in the 2006-07 winter season with 175.8 inches, while Menomonie (Dunn Co.) had the least with 29.0 inches.

16) Directly-related Fatalities & Injuries: Totals: 2 directly-related fatalities and 6 directly-related injuries. There was one directly-related fatality (golfer in Madison, Dane County on August 27th) due to lightning, and one directly-related fatality due to flash flooding (man swept away in his truck in southern Richland County on August 19th and body found on September 15th) . Four people were injured (directly-related) in tornadoes on June 7th – two in Oconto County and one each in Langlade and Marinette Counties. One person was injured (directly-related) by broken windshield glass due to large hail impact (Portage Co.), and one person was injured (Monroe Co.) when a tree fell onto a camper thanks to powerful thunderstorm winds (directly-related).

There were three additional indirectly-related lightning fatalities and two indirectly-related injured people in Madison at a bus stop incident on August 22nd . A mother and daughter waiting for a bus were electrocuted when lightning struck a power line and caused it to fall onto

a flooded street on which they were standing, while another child was injured. A passenger on the bus was killed, and the driver was injured, both having been shocked after coming out of the bus to help. Totals for indirectly-related incidents: 3 indirect fatalities and 2 indirect injuries.

(Note: there were many deaths and injuries related to vehicle accidents in which weather was a factor, especially in winter. However these are not tallied as directly-related fatalities or injuries since driving too fast for road conditions is usually the reason for the incident.)